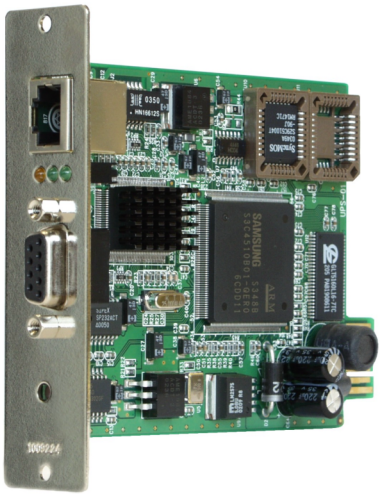
GE Consumer & Industrial
Digital Energy™



SNMP/Web Interface

USER MANUAL

Digital Energy ™

SNMP/Web Interface

Certified Quality System
SQS
ISO 9001 / EN 29001
Reg. No. 10448

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LISTED

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Model:	***SNMP/Web Interface card***	***1009224***
	SNMP/Web Interface box	***1009223***
Date of issue:	17.09.2004	
File name:	OPM_CON_SNM_BAS_CRD_XGB_V070	
Revision:	1.0	
Identification No.		

Up-dating		
Revision	Concerns	Date
7.0	New template Implementation of the new functions - NTP client - syslog	30.05.2004

Please read these instructions carefully before installation and use of the SNMP/WEB Interface.
We recommend you keep this manual in a safe place for future reference.

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The illustrations and plans describing the equipment are intended as general reference only and are not necessarily complete in every detail.
The contents of this publication may be subject to modification without prior notice.

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1 Safety rules

With this document, ***GE*** gives to the user all the necessary information about the correct installation and connection with the UPS units.

Please carefully read this ***Installation Guide*** before installing or operating the equipment.

If any problems are encountered with the procedures contained in this ***Installation Guide***, please contact the nearest ***Service Centre*** before you proceed.

All UPS installation, maintenance and service work should be performed by qualified service personnel only.

KNOWLEDGE and FULL compliance of the safety instructions and the warnings contained in this manual are

THE ONLY CONDITION

to avoid any dangerous situations during installation, operation, maintenance work, and to preserve the maximum reliability of the UPS system.

NOTE !

The installation and cabling of the option *"RPA KIT"* must be performed by *QUALIFIED SERVICE PERSON*.

Please refer to the "*Safety Rules*" included in the *"Operating Manual" of the UPS*.

Please read carefully the UPS *"Operating Manual & installation Guide"* before installing or operating the equipment.

If any problems are encountered with the description of this installation guide, please contact the nearest *Service Centre* before proceeding.

Please for the installation and cabling of the RPA KIT in USA use only type DP (DP1, DP1-P or DP2, DP2-P) or equivalent cable.

GE

refuses any responsibility in case of non-observance, unauthorised alterations or improper use of the delivered equipment.

2 Content of the kit

Content of the SNMP / Web Interface card

User manual
SNMP / Web Interface card

Content of the SNMP / Web Interface box

User manual
SNMP / Web Interface box
Power supply
Serial cable (1:1)

3 Introduction

3.1 Introduction

The SNMP/Web Interface is designed to present UPS information on the network.
The interface is available as a plug-in card and also as an external box.
Both products are identical, except that the external box additionally supports Contact Interface communication.

The interface provides the UPS information in different ways:

3.2 SNMP Agent

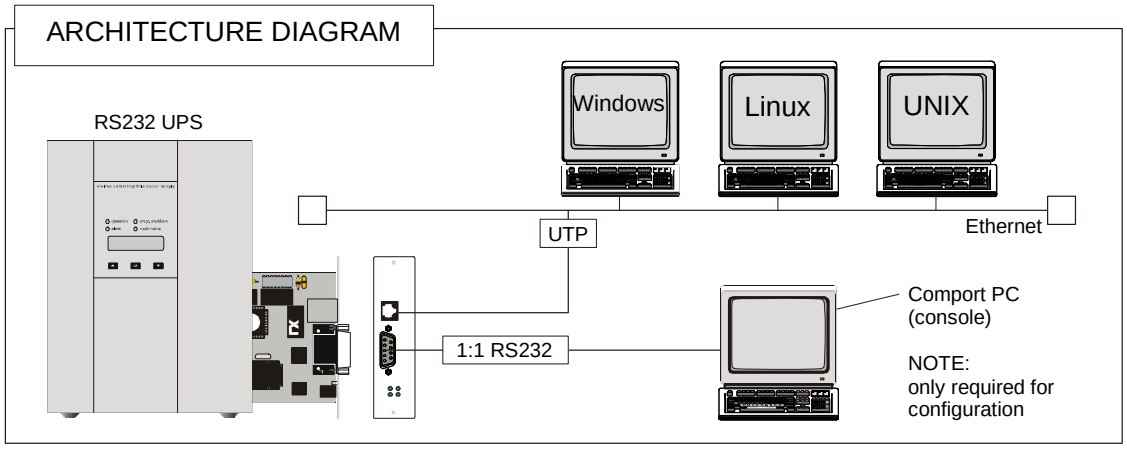
The SNMP information complies with the standard UPS-MIB, which is defined in RFC1628.
This format allows one or more NMSs (Network Management System) to monitor, manage and control the UPS.
In addition, General Electric Digital Energy network enabled protection software (PowerJUMP DataShield) can use this information to determine the status of the UPS in order to guarantee safe and orderly shutdown when needed.

3.3 Web Server

The UPS information is also available in HTML format. HTML is the basic language for Internet communication. Any standard internet browser can be used to monitor and control the UPS using HTML from anywhere on the network or even from anywhere in the world when using the internet.
For more information about SNMP/Web Interface card please consult the software support pages on the General Electric DE website: www.gedigitalenergy.com.

3.4 Telnet

For a simple way to see the UPS values you can use the telnet connection. This can be useful where no web browser is available.



3.5 Email

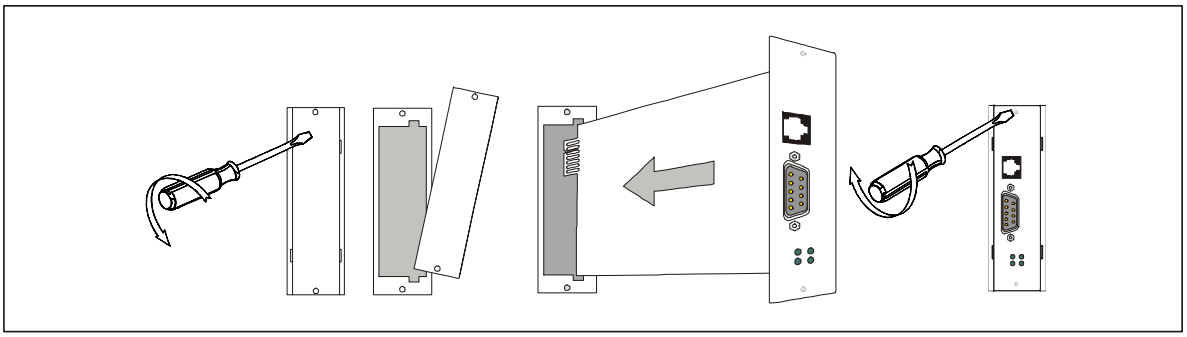
Up to 8 different users can be informed by email in case of an event or alarm.

4 Installation

4.1 Card version

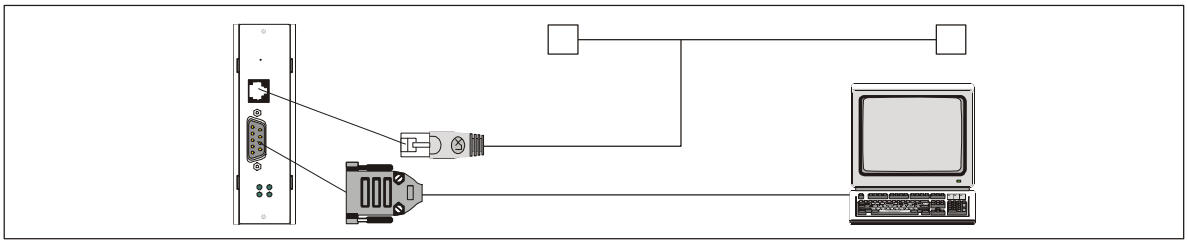
1. Switch off the UPS, and wait approx. 2 minutes or switch the UPS to the manual bypass. Please ensure that the mains input is reliable during this period.

2. Install the SNMP/WEB Interface card in the RS232 option slot. For more details about the slot please read the UPS user manual.

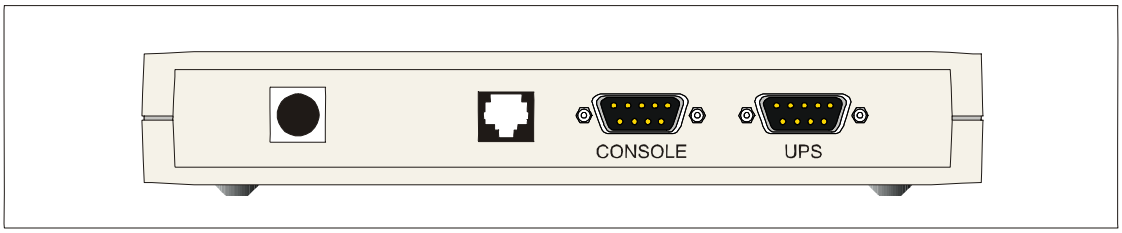


3. Make all necessary connections (see architecture diagram in chapter 1).

4. Switch on the UPS or go back to normal mode from bypass.



4.2 Box version



1. Connect the network cable to the box
2.

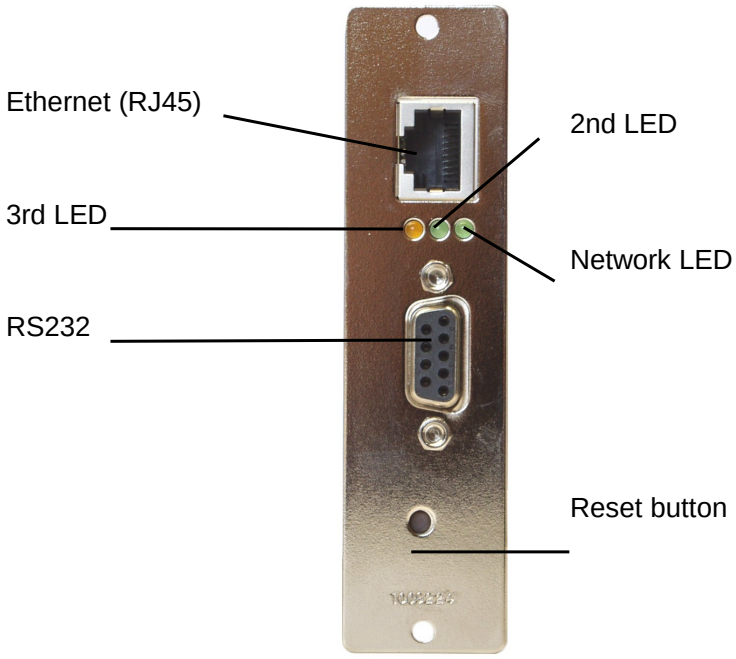
2 Connect the UPS to the SNMP/WEB Interface box (Sub-D connector “UPS”) using the cable provided with the UPS (VIC/23 or IMV-I) for intelligent communication.
For using the Contact Interface communication to a GE Digital Energy™ UPS a VIC-25 or IMV-C cable is required.

3. Connect the power to the box (most left connector). Make sure that the SNMP/WEB Interface box is powered by the UPS!

4. The green LED will flash to indicate that the connection to the UPS is established.
In case the LED is continuously on, you will need to check the cabling to the UPS.

5 LED status

5.1 Card version



Network LED

Off	No LAN connection
Solid green	LAN connection established, no communication on the network
Flashing green	LAN connection established, receiving or transmitting data packets

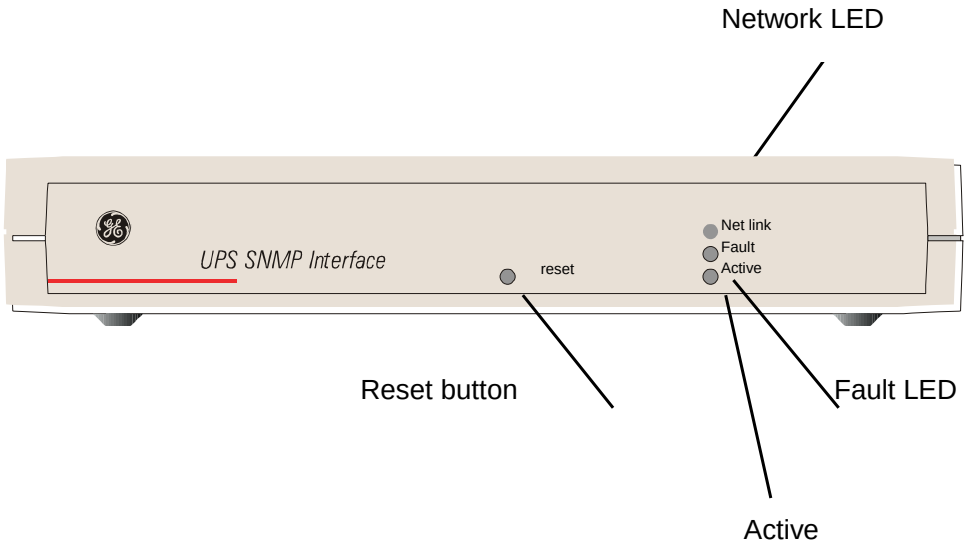
2nd LED

This LED has no function.

3rd LED

This LED has no function. It flashes continuously.

5.2 Box version



Network LED

Off	No LAN connection
Solid green	LAN connection established, no communication on the network
Flashing green	LAN connection established, receiving or transmitting data packets

Fault LED

Off	No fault
Solid green	Fault to the UPS

Active

Off	
Flashing orange	Fault to the UPS

6 Configuration methods

Configuration of the SNMP/Web Interface can be done in two ways: via the network or using a serial connected computer with a terminal emulation program.
To fully configure the SNMP/Web Interface over the network a DHCP server needs to be installed.

6.1 Configuration over the network

The factory default way of retrieving an IP-address is by using DHCP.

On the SNMP/WEB Interface you will find a sticker with its MAC-address that needs to be configured in the DHCP server. After assigning the IP-address to this MAC-address in the DHCP server the SNMP/WEB Interface needs to be rebooted to retrieve this IP-address.
For a reboot press the reboot button on the card, remove the power from the box for a few seconds.

Configuration of the other parameters can be performed by use of either a telnet program or by using a Web-browser.
The default login name and password are both ‘GE’ (in capitals).
For security reasons we suggest to change the default login name and password immediately!

Please proceed with chapter 4.

6.2 Configuration via a serial connection

Connect the SNMP/Web Interface to the computer using a standard 1:1 serial cable.
Run a terminal simulator like Windows Terminal or HyperTerminal.
Configure your terminal simulator to the following settings:

9600 bps, 8 data bits, 1 stop bit, none parity check, none flow control. Terminal emulation: VT-100

Establish a connection and press <enter>.
The default login name and password are both ‘GE’ (in capitals).
For security reasons we suggest to change the default login name and password immediately!
Please proceed with chapter 4.

6.3 Introduction

A telnet connection provides a simple way to view the UPS status and configure the interface card. The telnet connection on the RS232 interface is needed when no DHCP server is available for the first configuration or the IP-address is not known.

7 Configuration by a telnet / RS232 connection

7.1 Communication possibilities

A telnet connection can be established by the RS232 or Ethernet interface.
The default port for the Ethernet connection is 23.
For the RS232 connection the following settings are required: 9600 baud, 8 data bits, 1 stop bit, no parity check and no flow control.

7.2 Logon

Based on the settings a user can have read or read/write access.
For configuring a read/write access is needed.
The default login name and password is “GE” (capitals).
For security reason we suggest to change the default login name and password immediately.

7.3 Save the settings

All changed settings are immediately active (excluding the “speedduplex” command) up until the next reboot.
To have the new settings active also after a reboot you need to save the new settings with the “nvsave” command.

7.4 General commands

When you launch the command without any parameter you receive a detailed overview about the usage and parameters.

help	Shows the help description **PARAMETERS: {general|dns|dhcp|http|ftp|smtp|telnet |snmp|ups}** general shows all the general commands dns shows all the dns commands dhcp shows all the dhcp commands http shows all the http commands ftp shows all the ftp commands smtp shows all the smtp commands telnet shows all the telnet commands snmp shows all the snmp commands ups shows all the ups commands
list	List of all available commands.
version	Displays the firmware version.
nvsave	All the applied changes are saved definitively.
nvdefault	Resets the entire configuration to the factory default.
upgrade	Starts the upgrade with the uploaded firmware **PARAMETERS: {[filename]}** filename filename with extension ***NOTE:*** *With the ftp service, uploaded firmware will be installed after the user confirmation. The system is rebooted automatically. Depending on the upgrade, you can lose all the settings.*
reboot	The system will be restarted with a soft-reboot, after the user confirmation. ***NOTE:*** *All the changes needed to be saved with the nvsave command, otherwise they will be lost.*
logout	The logged in user will be deactivated. ***NOTE:*** *After 10 minutes of no interaction, the system will logout the user automatically.*
ping	Ping a IP-Address or hostname. **PARAMETERS: {[hostname]|[X.X.X.X]}** hostname Full qualified hostname X.X.X.X IP-Address ***NOTE:*** *The DNS needs to be configured correctly.*

7.5 Network settings

The networks settings allows the communication on the network.

dhcp-client	Activates or deactivates the DHCP Client. **PARAMETERS: {on|off}** on receives the network settings by DHCP off configure the network settings manually ***NOTE:*** *The network settings (IP-Address, default gateway, DNS) are assigned only after a reboot.*
showip	Shows the actual network settings
setip	Sets the IP-Address manually. **PARAMETERS: {[X.X.X.X] [/M]}** X.X.X.X IP-Address /M Subnet Mask in the CIDR format (see also the subnet mask calculation)
setdefgw	Sets the default gateway. **PARAMETERS: {[X.X.X.X]}** X.X.X.X Default gateway
hostname	Defines the full-qualified domain name. **PARAMETERS: {[hostname]}** hostname Full qualified domain name
speedduplex	Sets the speed of the Ethernet interface. **PARAMETERS: {1|2|3|4|5}** 1 Auto negotiation (default) 2 100 MB full duplex 3 100 MB half duplex 4 10 MB full duplex 5 10 MB half duplex ***NOTE:*** *Normally the default setting is the best solution.*

7.6 DNS settings

The DNS settings are needed when the email functionality is used or hostnames are used instead of IP-Addresses.

showdns	Shows the detailed DNS settings
adddnssrv	Adds a DNS-Server. You can define max. 2 different Servers. **PARAMETERS: {[entry_no] [X.X.X.X]}** entry no 1 or 2 X.X.X.X IP-Address ***NOTE:*** *The DNS Servers need to be configured when you prefer to work with hostname and for the email functionality.*
deldnssrv	Deletes a DNS-Server. **PARAMETERS: {[entry_no]|all}** entry_no Number of DNS Server all Delete all DNS Server ***NOTE:*** *It will not work when only the second DNS-Server is defined.*
testdns	Tests the DNS-Server settings. **PARAMETERS: {[hostname]}** hostname to resolve hostname in a IP-Address **RESULTS:** [IP-Address] resolved successfully in [hostname] OR Can not give IP Address for [hostname] ***NOTE:*** *The DNS Servers need to be configured when you prefer to work with hostname and for the email functionality.*

7.7 User

You can define different users with different rights and access possibilities.
The first user needs special rights as administrator.
The administrator then has access to all services and rights.
The service access and read/write access will be configured automatically by the system.
The administrator settings control access to the card and a password guarantees security.
Please note that the password must be known.

showuser	Shows the user settings. **RESULTS:** [username] [password] [telnet] [http] [ftp] [read|read/write]
adduser	Adds a user. You can define up to 8 different users. By default settings the first user is defined as “GE” with the password “GE”. **PARAMETERS: {[user][telnet][http][ftp][access][entry_no]}** user username telnet 1= access allowed; 0= not allowed http 1= access allowed; 0= not allowed ftp 1= access allowed; 0= not allowed access ro = read only; rw = read and write entry_no number of entry (1 to 8) ***NOTES:*** *After adding the user you are asked for the password that needs to be confirmed a second time.* *An existing user can be overwritten when you use the same entry_no.* *The first user needs to have telnet, http and ftp access and read/write rights. These settings will be configured automatically.*
deluser	Deletes one of the 8 users. **PARAMETERS: {[username]|[entry_no]|all}** username deletes the user with the username entry_no deletes the user with the entry number all All users are deleted and the 1st (administrator). User reset as “GE” with “GE” as password.

7.8 Service settings

Enables or disables the different services.
Please note that the access on the RS 232 interface is in any case active.
The ftp-service allows the remote update of the firmware.

http-server	Enables and disables the http server. **PARAMETERS: {on|off|}** on enables the http server off disables the http server ***NOTE:*** *The http server responds on the default port 80.*
ftp-server	Enables and disables the passive ftp server. **PARAMETERS: {on|off|}** actual status on enables the ftp server off disables the ftp server ***NOTE:*** *The ftp server responds on the default port 21.*
showftp	Shows the detailed ftp server information and connections.
telnet-server	Enables and disables the telnet server. **PARAMETERS: {on|off|}** actual status on enables the telnet server off disables the telnet server ***NOTE:*** *The telnet server responds on the default port 23.*
showtelnet	Shows the detailed telnet server information and connections.

7.9 Email settings (SMTP)

The email configuration allows the user to inform up to 8 different users by email in case of an event or alarm.

email-alert	Enables and disables the telnet server. **PARAMETERS: {on|off}** on enables the email functionality off disables the email functionality
smtp-server	Sets the SMTP server address, where the messages will be sent. **PARAMETERS: {[X.X.X.X]}** X.X.X.X IP-Address of the email server ***NOTE:*** *The hostname works only when the DNS settings are correct.*
smtp-sendername	Defines the “mail from:” header. **PARAMETERS: {[email-address]}** email-address} Email address. (Max. 127 characters) ***NOTE:*** *Please clarify the correct email address with IT. Without a correct address the SMTP server may not send the emails.*
addrcpt	Adds a recipient address. You can define up 8 different recipients. **PARAMETERS: {[email-address] [entry_no]}** email-address email address (max. 127 characters) entry_no number of entry
delrcpt	Deletes a recipient address. **PARAMETERS: {[entry_no]|[email-address]|all}** entry_no number of entry email-address Email address all delete all recipient address
showsmtp	Shows the detailed emails settings.
sendemail	Sends a test email to all configured addresses. **PARAMETERS: {[message]}** message test message that will be sent

7.10 SNMP

Enables or disables the possibility to send UPS information by SNMP.
Many IT systems require the identity name of the information sender before sending the information.
For security reasons you need to define the communities to send/receive information and write settings to the UPS or SNMP card. The identity name corresponds to the community.

snmp-server	Enables or disables the SNMP server **PARAMETERS: {no|off}** on enable the SNMP server off disable the SNMP server
sysname	Defines the hostname (system name). This field is mandatory. **PARAMETERS: {[sysname]|default}** sysname hostname (system name) default defines “GEDE_UPS” ***NOTE:*** *An administratively assigned name for this managed node. By convention, this is the node's fully qualified domain name.*
syscontact	Sets the system contact. This field is mandatory. **PARAMETERS: {[syscontact]|default}** **syscontact** contact person default defines “SysContact” ***NOTE:*** *The syscontact is the textual identification of the contact person for this managed node, together with information on how to contact this person.*
syslocation	Sets the system location. This field is mandatory. **PARAMETERS: {[syslocation]|default}** syslocation location name default defines “SysLocation” ***NOTE:*** *The physical location of this node (e.g. “telephone closet, 3rd floor”).*
getcommunity	Defines the community name for receiving SMNP information. This field is mandatory and the default value is “public”. Without any parameter it shows the actual settings. **PARAMETERS: {[community]}** community community name to read information ***NOTE:*** *The get community name for the sender and receiver need to correspond, otherwise the information’s will not be received.*
setcommunity	Defines the community name for receiving SMNP information. This field is mandatory and the default value is “private”. Without any parameter it shows the actual settings. **PARAMETERS: {[community]}** community community name to write values ***NOTE:*** *The set community name for the sender and receiver need to correspond, otherwise the information will not be received.*
showsys	Shows the detailed system information.

7.11 SNMP Trap

With the SNMP traps you can inform up to 20 different systems in case of an event or alarm.
This configuration allows informing of the server and monitoring systems without continuous communication.
The UPS informs the system only when necessary.

sendtrap	Enables or disables the send trap function.
addtraptgt	Adds a trap address and the community name. You can define up to 20 different addresses. **PARAMETERS: {[X.X.X.X] [community] [trapport] [entry_no]}** X.X.X.X ip-address community community name (default “public”) trapport port to send the trap (default 162) entry_no number of entry ***NOTE:*** *The community name for the sender and receiver need to correspond, otherwise the information will not be received.*
deltraptgt	Deletes a trap address. **PARAMETERS: {[X.X.X.X]|[entry_no]|all}** X.X.X.X ip-address entry_no number of entry all all entries
showtrap	Shows the detailed trap configuration settings

7.12 UPS information

upsident	Shows the UPS identification and battery information.
upsstatus	Shows the UPS status information.
upsalarm	Shows the actual alarm / events of the UPS.

7.13 UPS settings

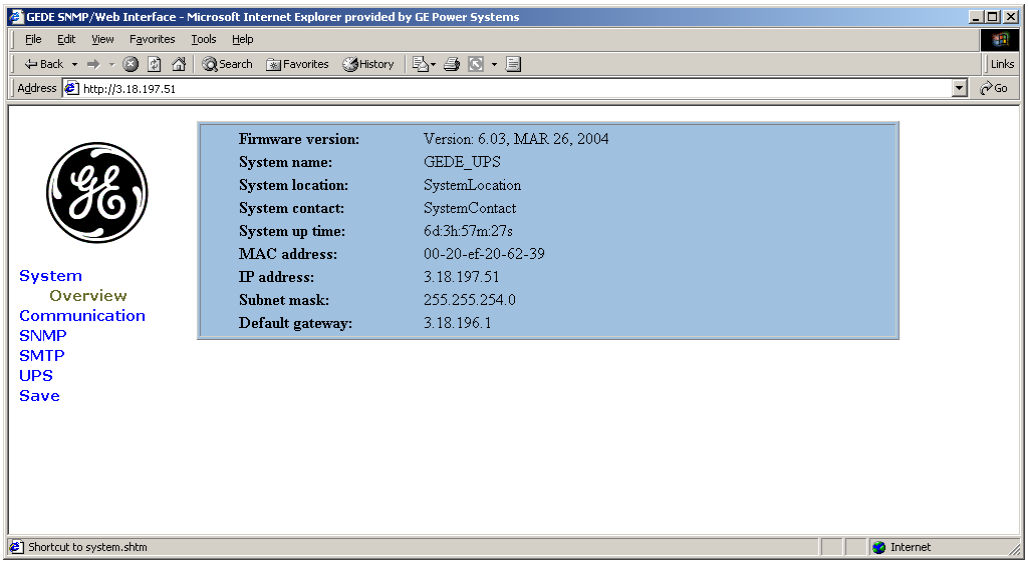
upstest	Shows start or stop a UPS test. **PARAMETERS**: {show|2|3|4|5|101} show — shows the actual status of test 2 — Abort test in progress 3 — start general system test 4 — start quick battery test 5 — start deep battery calibration 101 — start bypass test ***NOTE:*** *Please note that not all UPS have all tests available or allowed by configuration or actual status.*
upscontrol	Allows control of the UPS. **OPTIONS:** show — shows all UPS control settings shutdowntype — {[output]|[system]} output — only the output is shutdown system — the UPS and output is shutdown shutdown time — {-1|[time]} -1 — abort the shutdown time — counter for the shutdown (1..90 sec) startup time — {-1|[time]} -1 — abort the startup time — counter for the startup (1..90 sec) reboot time — {-1|[time]} -1 — abort the reboot time — counter for the reboot (1..90 sec) autorestart — {on|off} on — the UPS restarts after a power returns off the UPS doesn't restart after power returns receptable — {[0..9]|on|off] 0..9 — ? on — ? off — ? NOTE: Only one of the shutdown, startup or reboot times can be started in the same moment. Not all the UPS support the shutdowntype, autorestart or receptable settings.
upsconfig	Allows user to configure the UPS parameters. **Options :** show — shows all actual UPS config settings inputvolt — {[num]} num — input voltage inputfreq — {[num]} num — input frequency outputvolt — {[num]} num — output voltage outputfreq — {[num]} num — output frequency lowbatttime — {[num]} num — remaining battery time when the UPS needs to give out the low battery signal audiblestatus — {[disabled]|[enabled]|[muted]} disabled — disables the audible status enabled — enables the audible status muted — mutes the audible status lowvoltpoint — {[num]} num — minimum voltage before the UPS switches to battery highvoltpoint — {[num]} num — maximum voltage before the UPS switches to battery batterycapacity — {[num]} num — defines the nominal battery capacity.

8 Web Interface

To have access to several sub sites you need read write access.

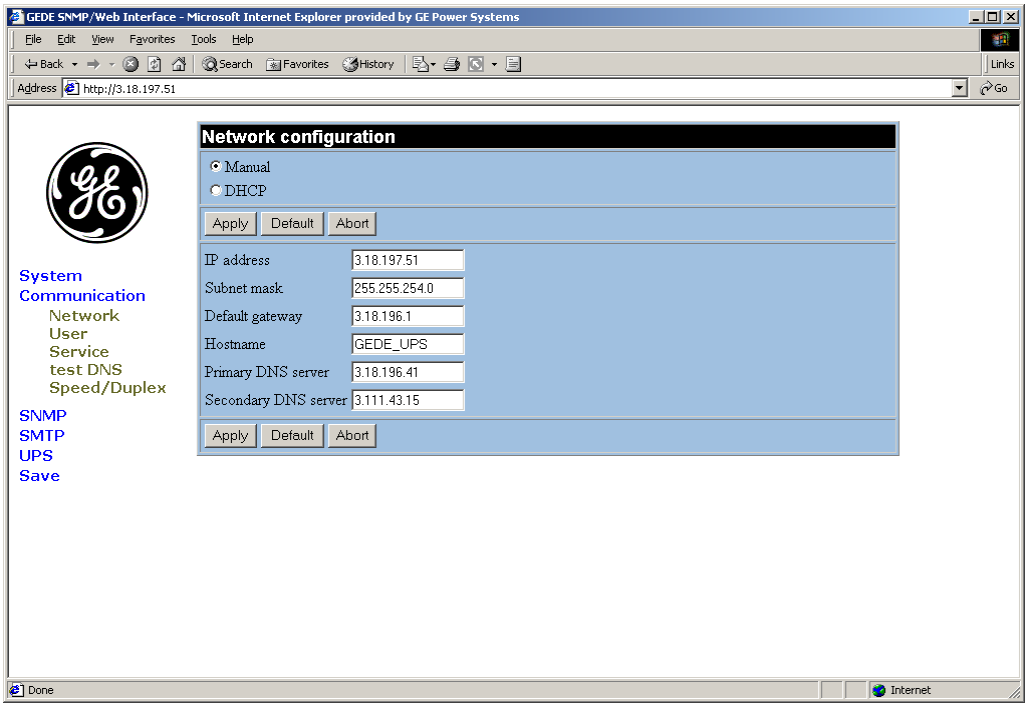
8.1 Overview

This page gives you an overview about the software version, the network configuration and the system information.



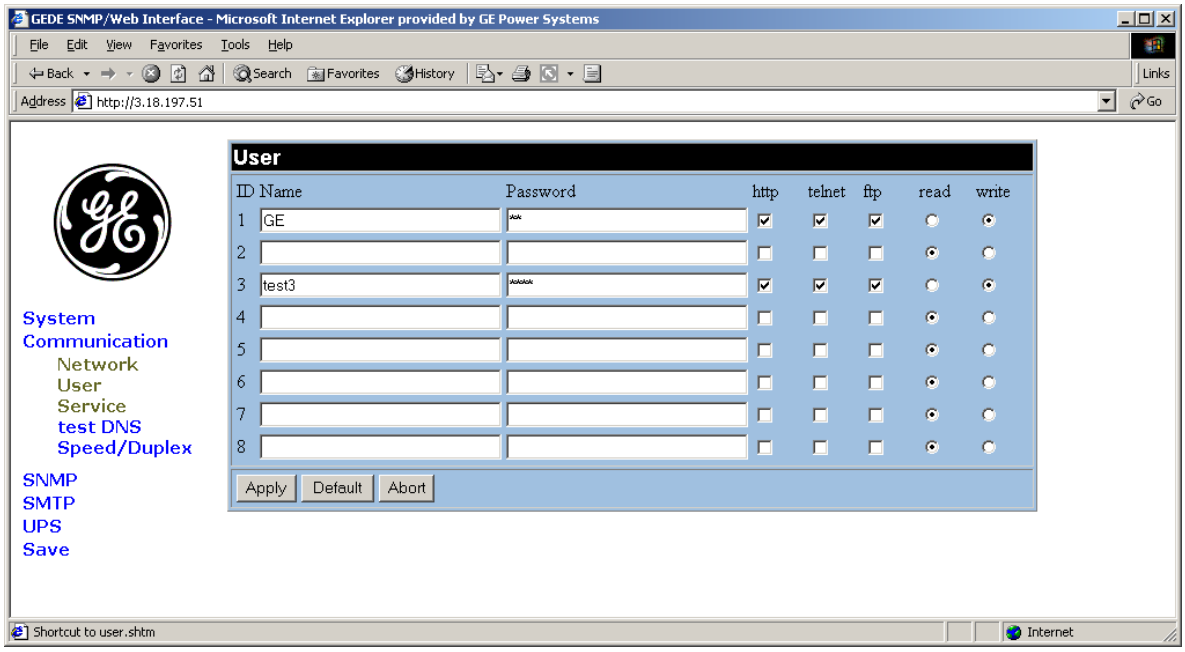
8.2 Network settings

To access this site you need to have write access.



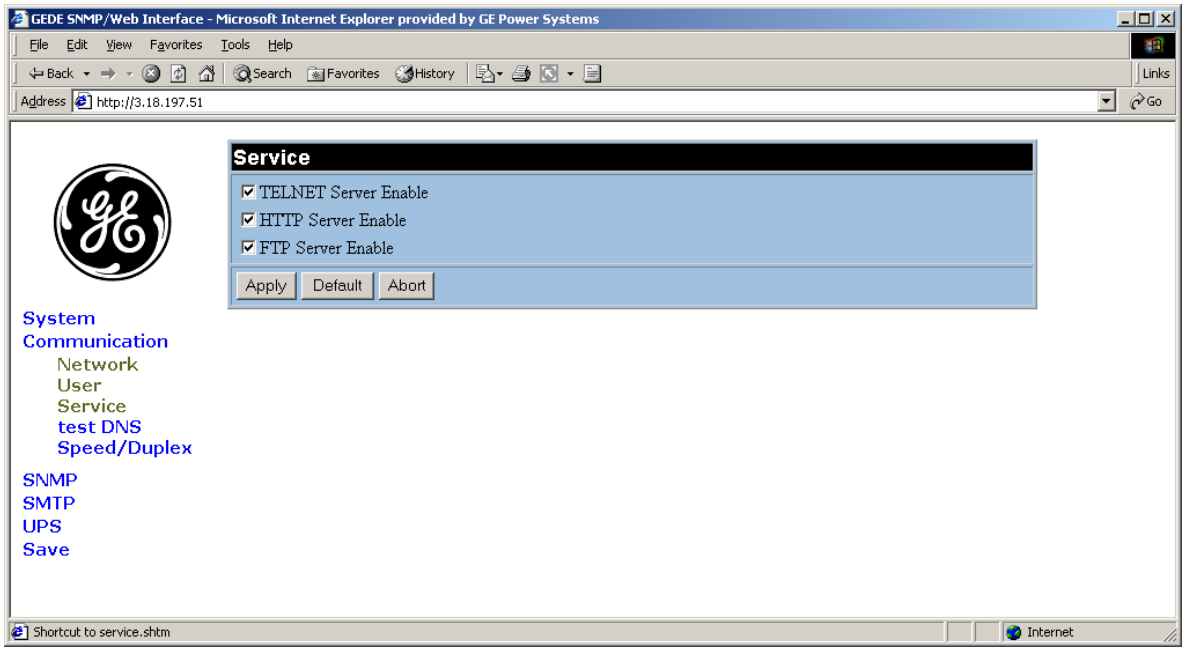
8.3 User settings

To access this site you need to have write access.

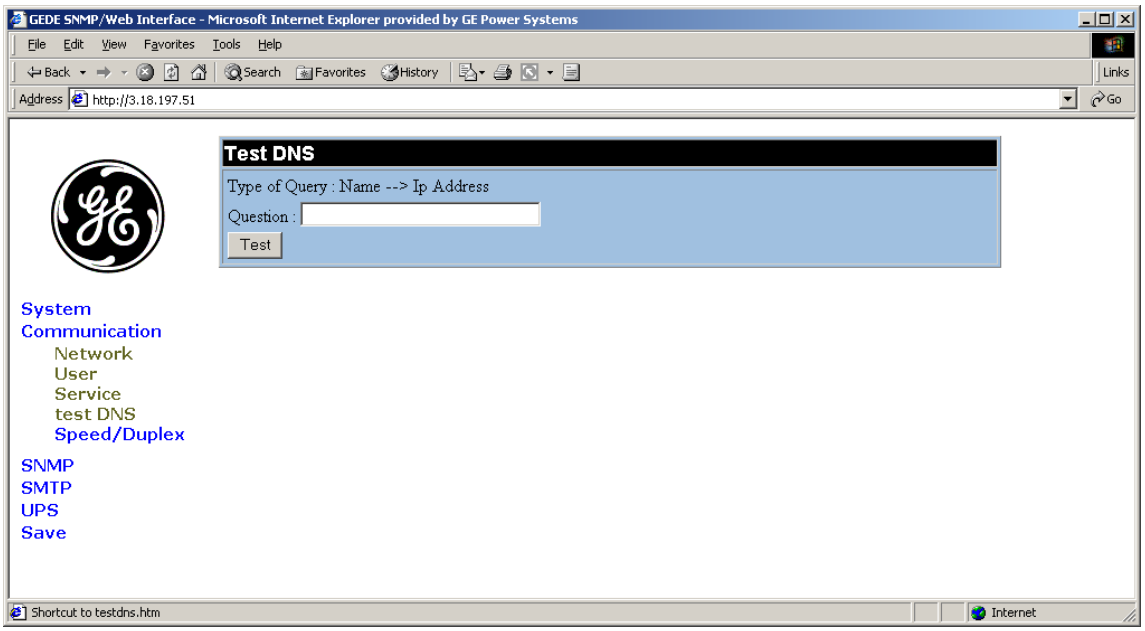


8.4 Service settings

To access this site you need to have write access.

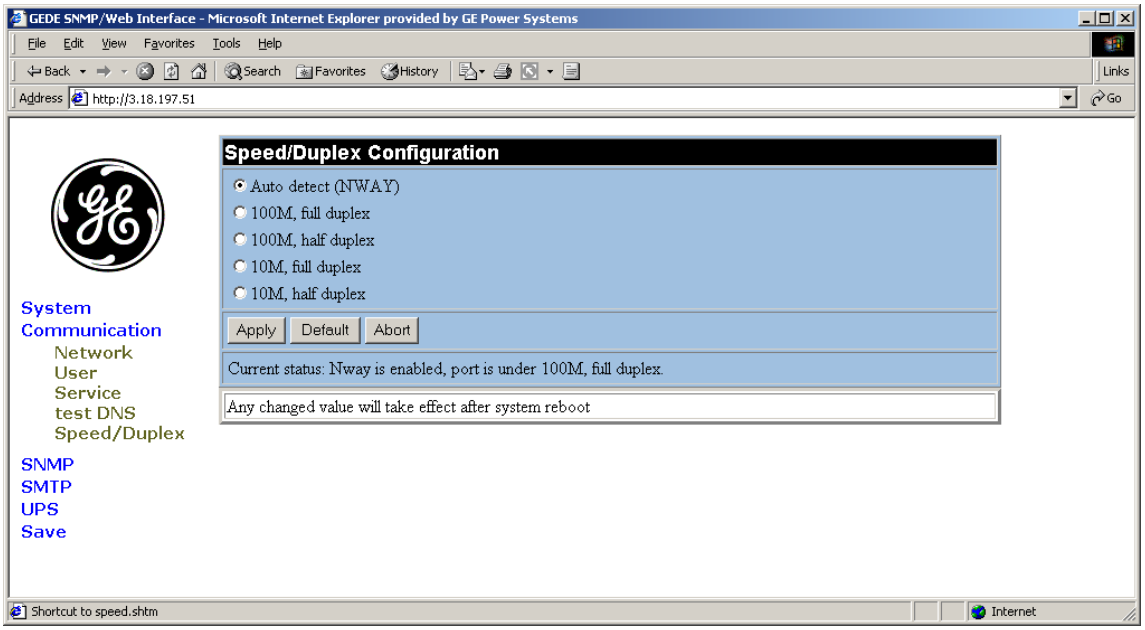


8.5 DNS test



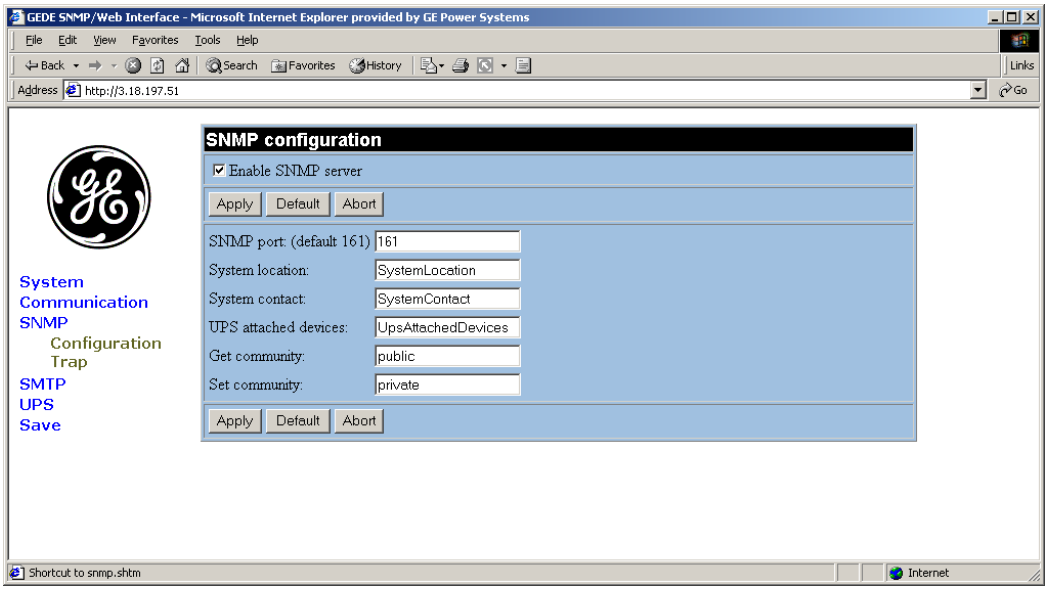
8.6 Speed/duplex configuration

To access this site you need to have write access.



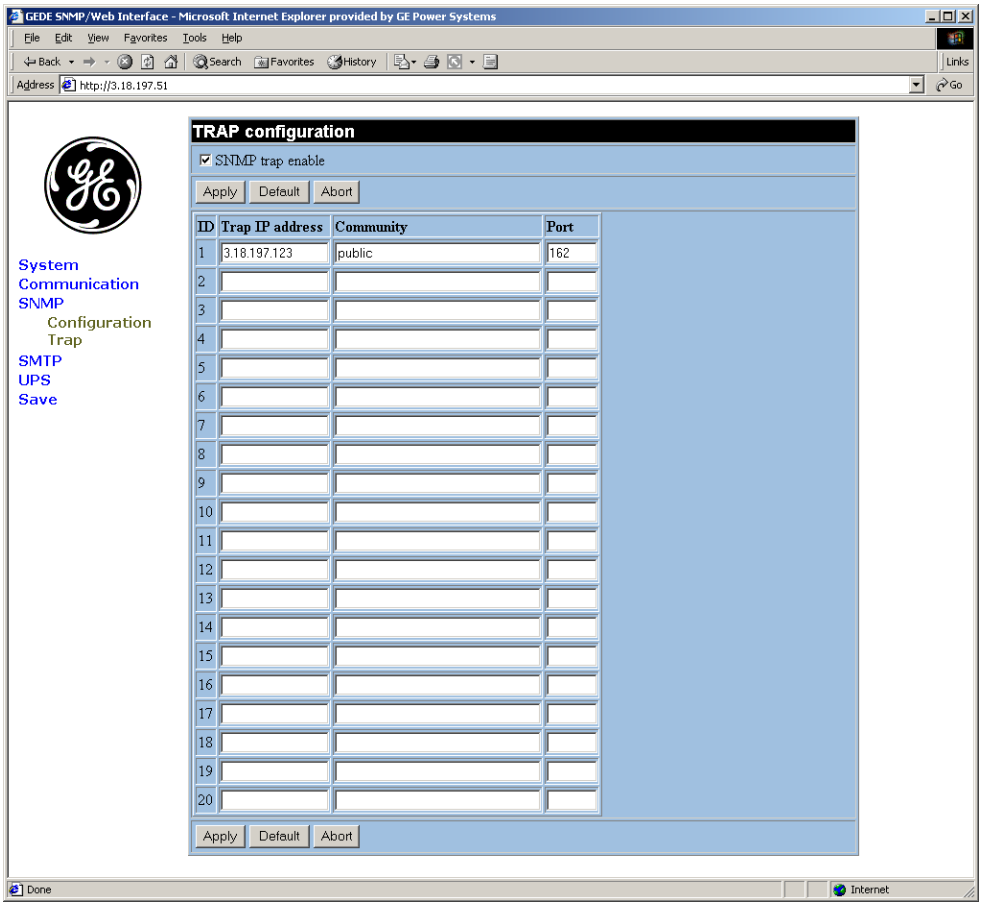
8.7 SNMP configuration

To access this site you need to have write access.



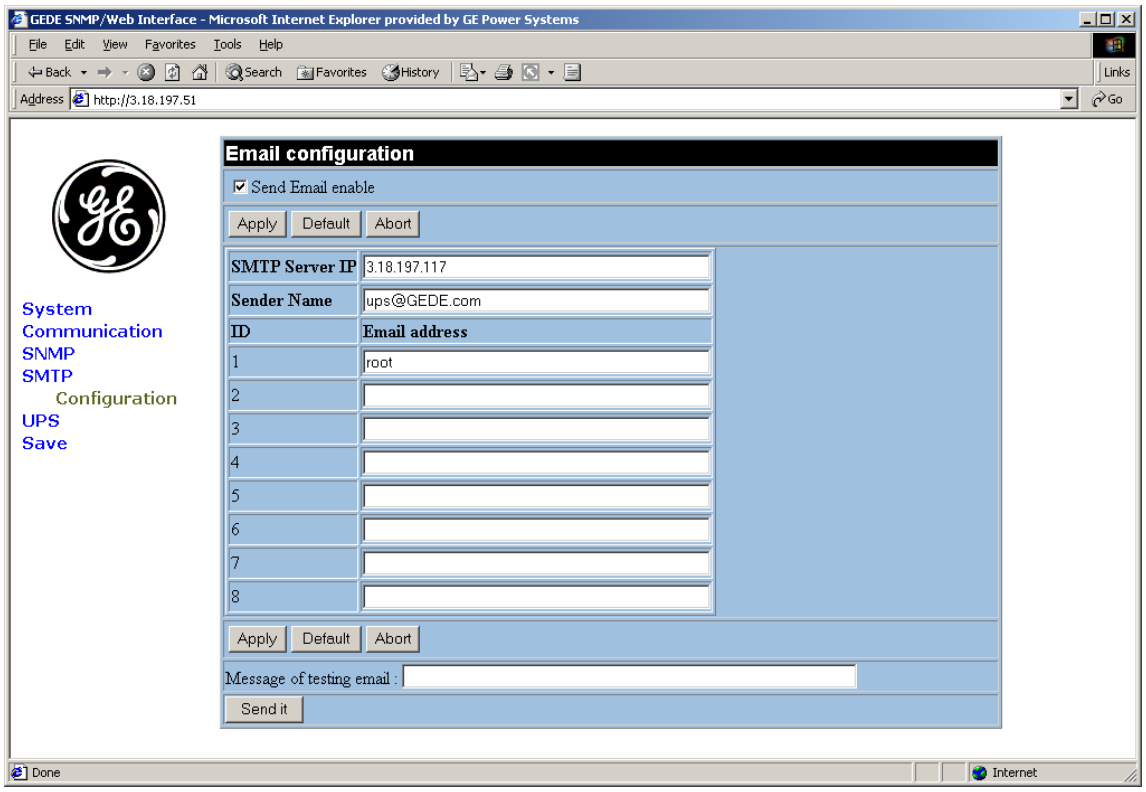
8.8 SNMP trap configuration

To access this site you need to have write access.

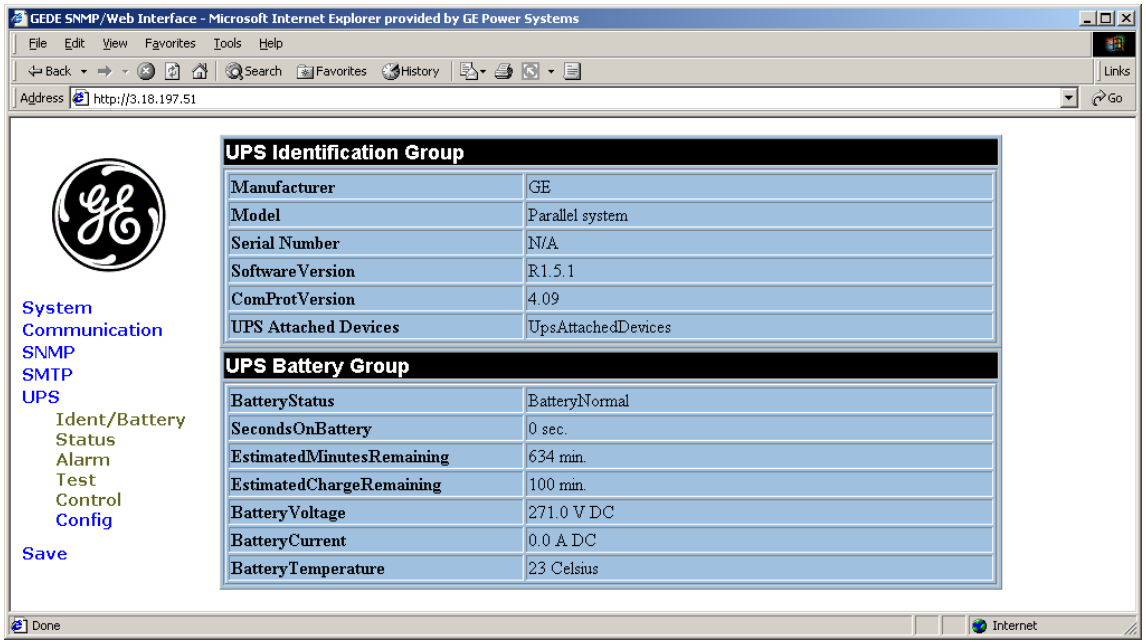


8.9 Email configuration

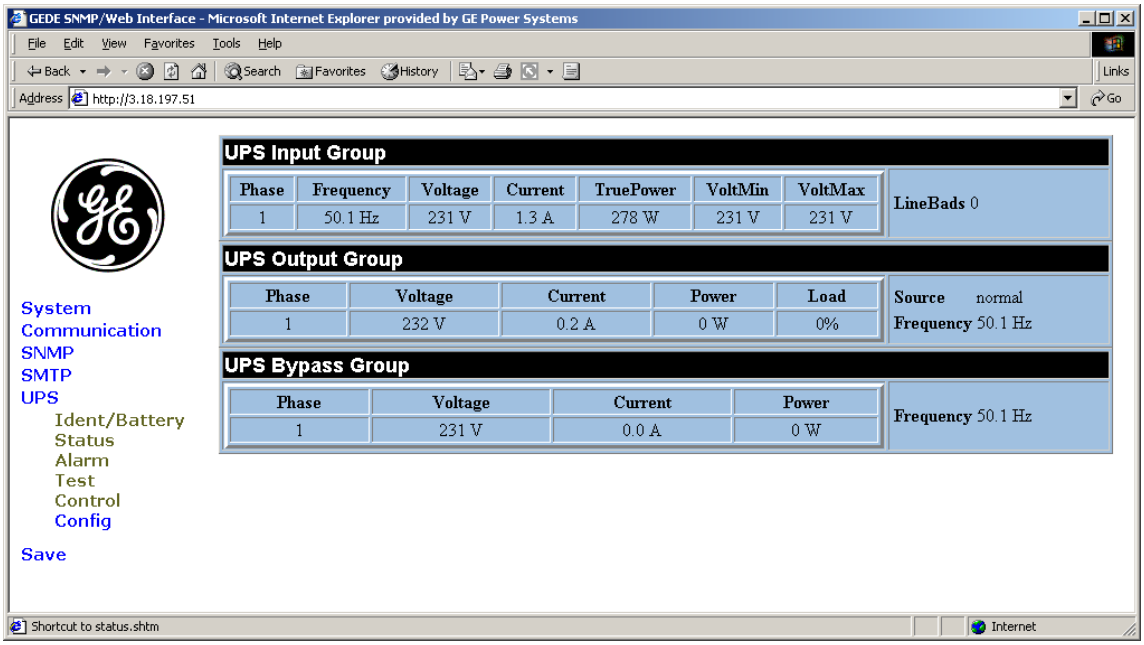
To access this site you need to have write access.



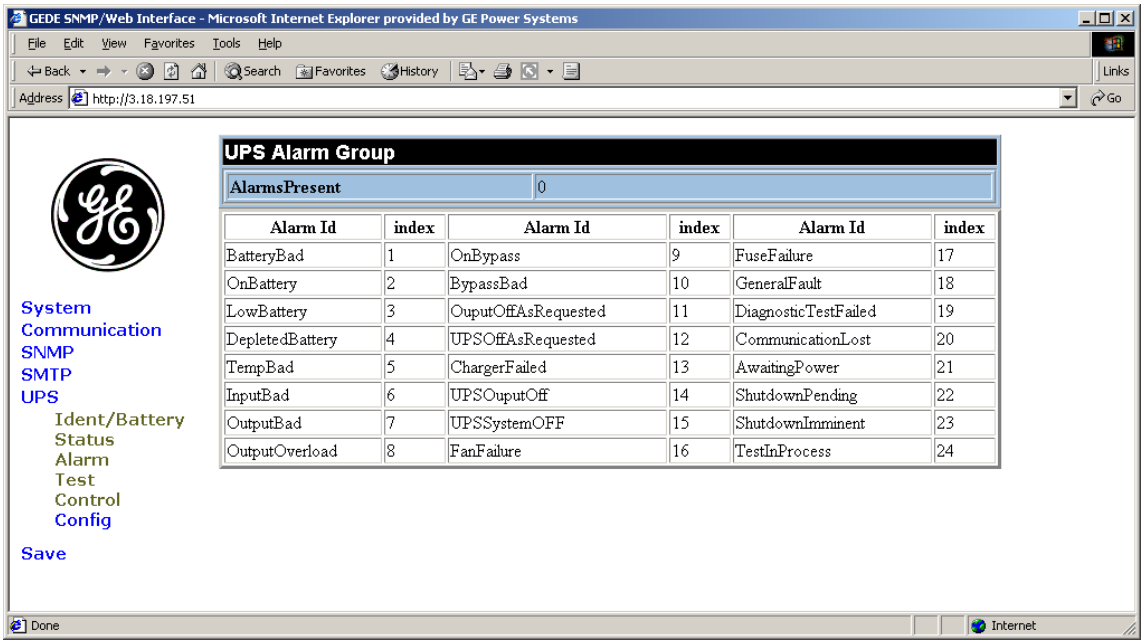
8.10 UPS Identification



8.11 UPS Status

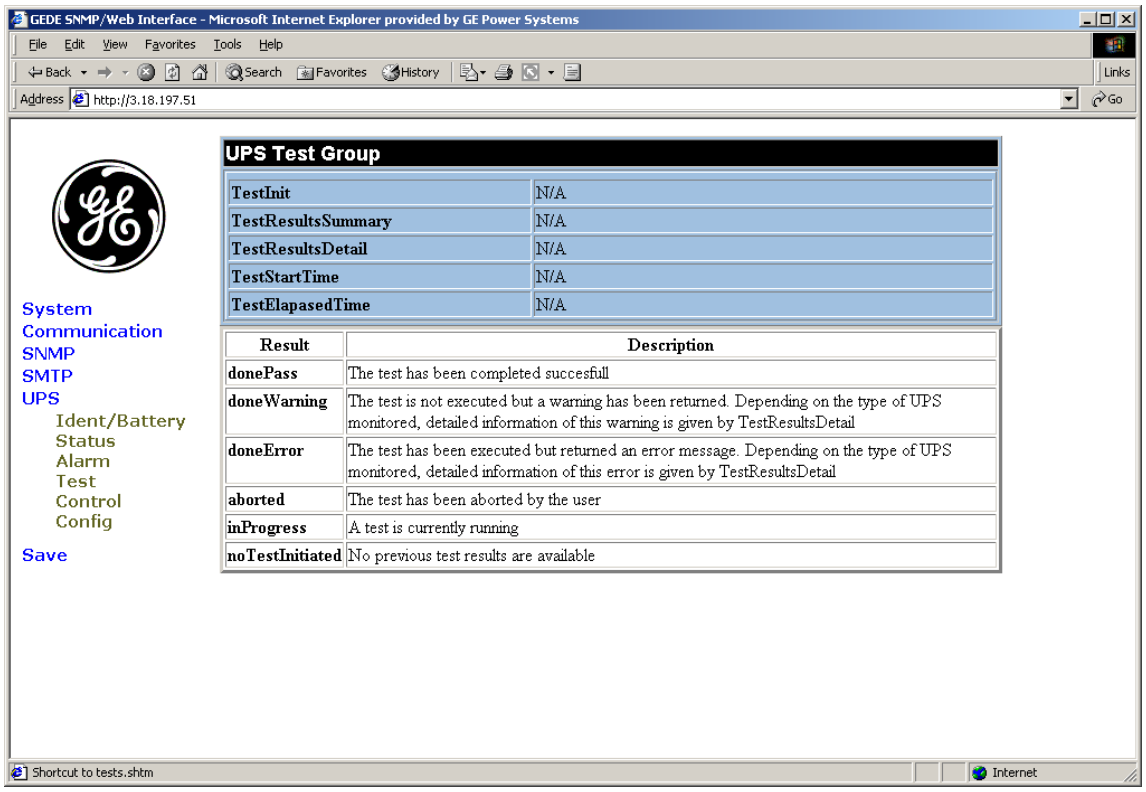


8.12 UPS Alarms



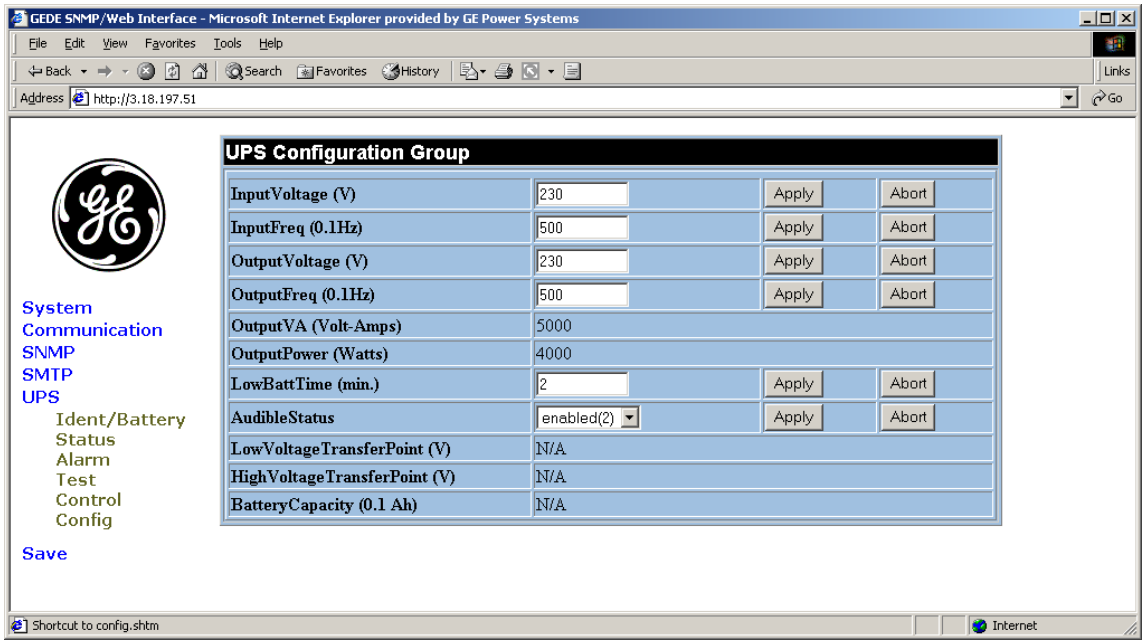
8.13 UPS test

To access this site you need to have write access.


GEDE SNMP/Web Interface - Microsoft Internet Explorer provided by GE Power Systems
File Edit View Favorites Tools Help
Back Search Favorites History Links
Address http://3.18.197.51
Go
System
Communication
SNMP
SMTP
UPS
Ident/Battery
Status
Alarm
Test
Control
Config
Save
UPS Test Group
TestInit N/A
TestResultsSummary N/A
TestResultsDetail N/A
TestStartTime N/A
TestElapsedTime N/A
Result
Description
donePass The test has been completed succesfull
doneWarning The test is not executed but a warning has been returned. Depending on the type of UPS monitored, detailed information of this warning is given by TestResultsDetail
doneError The test has been executed but returned an error message. Depending on the type of UPS monitored, detailed information of this error is given by TestResultsDetail
aborted The test has been aborted by the user
inProgress A test is currently running
noTestInitiated No previous test results are available
Shortcut to tests.shtm
Internet

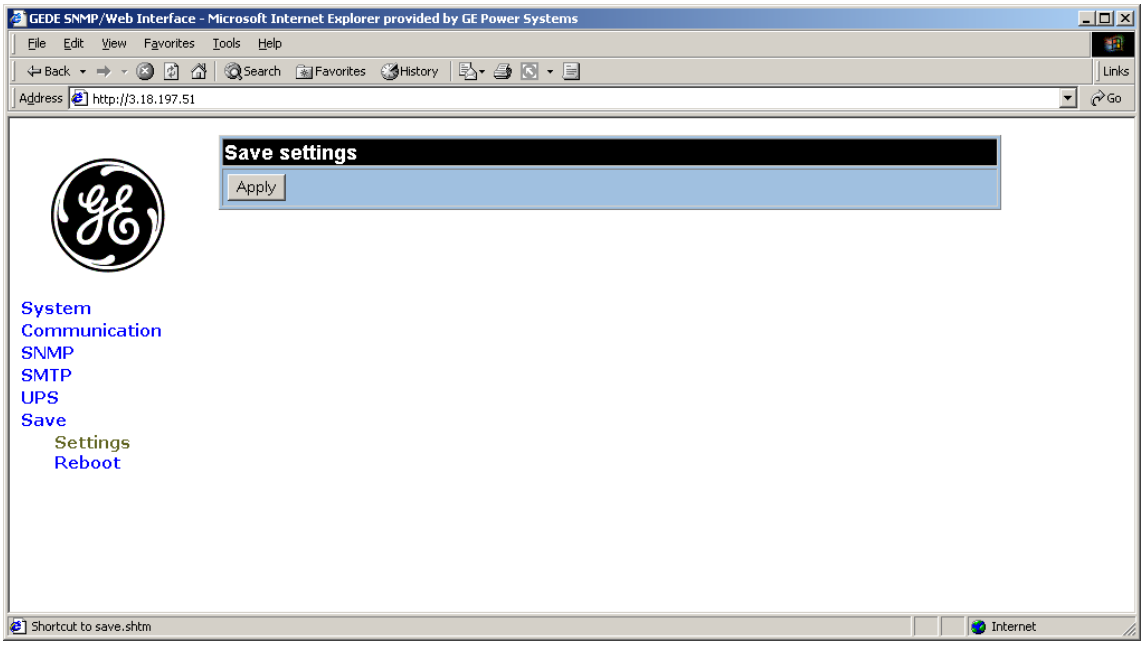
8.14 UPS configuration

To access this site you need to have write access.



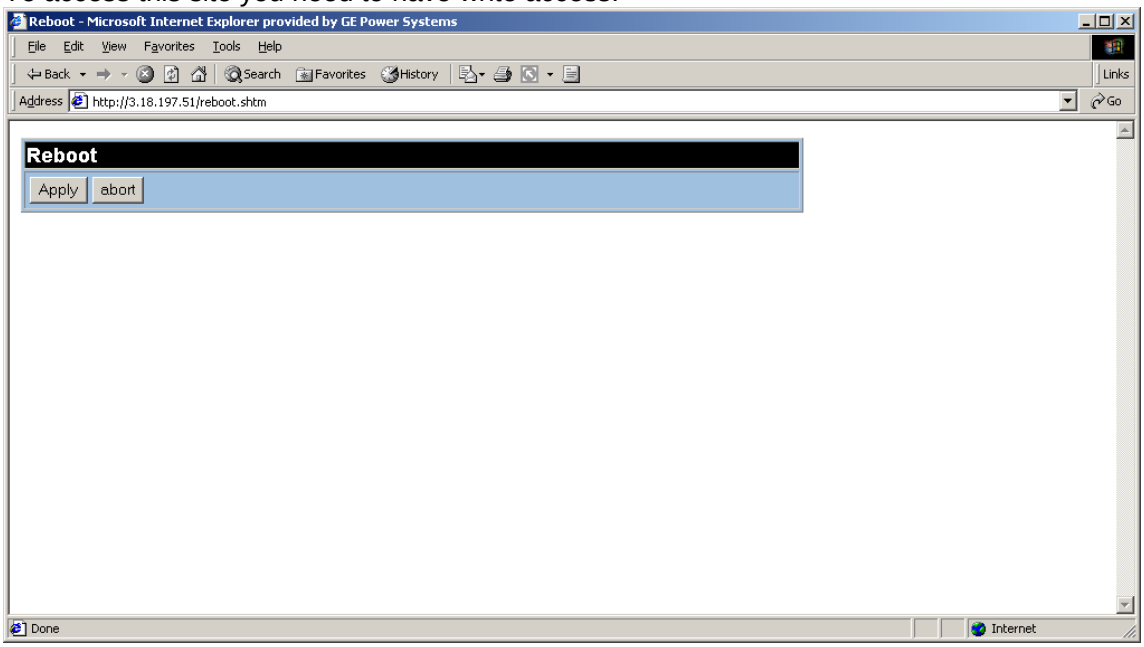
8.15 Save settings

To access this site you need to have write access.



8.16 Reboot settings

To access this site you need to have write access.



9 USE

9.1 SNMP Agent

The SNMP agent can be used in two situations:

9.1.1 NMS (Network Management Software)

The SNMP/WEB Interface allows you to monitor a UPS with any NMS (e.g. Tivoli, HP-Openview or CA Unicenter) to detect and react on any status change of the UPS.
For this type of application the SNMP/WEB Interface needs to be configured to send traps to the computer on which the NMS runs.
Up to four different trap addresses are configurable.

9.1.2 Protection software

Besides monitoring a locally connected UPS, protection software can also monitor the status of a UPS via the network when it has an SNMP/WEB Interface installed.
This creates the ability to configure very flexible protection schemes.
A typical example is an application server, which is depending on a database server.
The protection software on the application server will detect a power failure on the database server and will start to close all database connections before the database server itself shuts down.

9.2 Web Server

The built-in web server functionality enables the user to monitor and control the UPS with use of a standard Internet browser.
The offered information of the web server gives a complete and detailed status overview in a very user friendly way.
Besides measurement values of the UPS the complete configuration can be done via the web browser.

10 Firmware upgrade

To update the firmware you need first to upload the new version by ftp and to start the upgrade command by telnet or serial connection.
Depending on the version of firmware the previous settings can be lost.
Here you need to read the firmware documentation.

10.1 Firmware upload

Establish an ftp connection with the command:

ftp {[X.X.X.X]|[hostname]}

You need to define the IP-Address *[X.X.X.X]* or the full-qualified domain name *[hostname]* of the updating SNMP interface card or box.
On the login name and password request you need to enter a username and the corresponding password of who is allowed to access the ftp server and with write access.

Start with the following command to upload the new firmware:

put [path\][file]

Where [path\] corresponds to the path where the file is placed and [file] is the filename with extension. After a successful upload a similar message is showed:

You can close the ftp session with the

quit

command.
After the upload you need to start immediately the upgrade without a reboot.
Otherwise the uploaded file will be deleted in the memory of the SNMP interface card or box.

10.2 Firmware upgrade

To upgrade the firmware you need to establish a telnet or RS232 connection.
The user needs to have write access.
The telnet session can be started with the

telnet *{[X.X.X.X]|[hostname]}*

You need to define the IP-Address *[X.X.X.X]* or the full-qualified domain name *[hostname]* of the updating SNMP interface card or box.
On the login name and password request you need to enter a username and the corresponding password of who is allowed to access the telnet server and with write access.

The upgrade can be started with the command

upgrade [file]

Where the *[file]* corresponds to the uploaded filename with extension.
After the upgrade the SNMP interface card or box reboots automatically if there is no interruption after 3 seconds.
Depending on the version of firmware the previous settings can be lost.
More details can be found in the documentation of the new firmware.
If this occurs, please refer to the descriptions in Chapters 3 and 4 to reconfigure the card.

11 Subnet-mask calculation

The subnet mask needs to be defined in the CIDR format.
The following table shows the traditional and CIDR format.

CIDR	subnetmask format
/32	255.255.255.255
/31	255.255.255.254
/30	255.255.255.252
/29	255.255.255.248
/28	255.255.255.240
/27	255.255.255.224
/26	255.255.255.192
/25	255.255.255.128
/24	255.255.255.0
/23	255.255.254.0
/22	255.255.252.0
/21	255.255.248.0
/20	255.255.240.0
/19	255.255.224.0
/18	255.255.192.0
/17	255.255.128.0
/16	255.255.0.0
/15	255.254.0.0
/14	255.252.0.0
/13	255.248.0.0
/12	255.240.0.0
/11	255.224.0.0
/10	255.192.0.0
/9	255.128.0.0

12 Supported MIB Variables

MIB VARIABLE

==== IDENTIFICATION Group ====
UpsIdentManufacturer
UpsIdentModel
UpsIdentUPSSoftwareVersion
UpsIdentAgentSoftwareVersion
upsIdentName
upsIdentAttachedDevices

==== BATTERY Group ====
UpsBatteryStatus
UpsSecondsOnBattery
UpsEstimatedMinutesRemaining
UpsEstimatedChargeRemaining
UpsBatteryVoltage
UpsBatteryCurrent
UpsBatteryTemperature

==== INPUT Group ====
UpsInputLineBads
UpsInputNumLines
UpsInputFrequency
UpsInputVoltage
upsInputCurrent
upsInputTruePower

==== OUTPUT Group ====
UpsOutputSource
UpsOutputFrequency
UpsOutputNumLines
UpsOutputVoltage
UpsOutputCurrent
UpsOutputPower
UpsOutputPercentLoad

==== ALARM Group ====
upsAlarmsPresent

==== CONTROL Group ====
UpsShutdownType
UpsShutdownAfterDelay
UpsStartUpAfterDelay
UpsRebootWithDuration
UpsAutoRestart

POSSIBLE ALARMS

==== ALARM ID ====
UpsAlarmBatteryBad
UpsAlarmOnBattery
UpsAlarmLowBattery
UpsAlarmDepletedBattery
UpsAlarmTempBad
UpsAlarmInputBad
UpsAlarmOutputBad
UpsAlarmOutputOverload
UpsAlarmOnBypass
UpsAlarmBypassBad
UpsAlarmOutputOffAsRequested
UpsAlarmUpsOffAsRequested
UpsAlarmChargerFailed
UpsAlarmUpsOutputOff
UpsAlarmUpsSystemOff
UpsAlarmFanFailure
UpsAlarmFuseFailure
upsAlarmGeneralFault
upsAlarmDiagnosticTestFailed
upsAlarmCommunicationsLost
upsAlarmAwaitingPower
upsAlarmShutdownPending
upsAlarmShutdownImminent
upsAlarmTestInProgress

SUPPORTED TRAPS

==== TRAP TYPE ====
upsTrapOnBattery
upsTrapTestCompleted
upsTrapAlarmEntryAdded
upsTrapAlarmEntryRemoved

13 Support

13.1 First line support

Please contact your local ***General Electric Digital Energy*** distributor for any issues with installation or use.

13.2 Internet Support

On-line support is also possible on request for users with Internet access.

13.3 Web Server Support

We will publish updates and patches on our Web server.

WWW.GEDIGITALENERGY.COM

We have a Web server running at www.gedigitalenergy.com.
With your Web browser you can access the latest information and product news for ***General Electric Digital Energy***.